Amendments to the Claims

The following is a complete listing of claims with a status identifier in parenthesis.

1. (Previously Presented) A method for detecting a multipath component of packet data at a receiver, comprising:

identifying viable multipath components received by the receiver during an active period of data transmission, whereby the packet data is transmitted; and

searching for a multipath component during an inactive period of said data transmission, including defining a dynamic acquisition search window having a time width which increases in proportion to a time duration of the inactive period.

2. (Previously Presented) The method according to claim 1, wherein the dynamic acquisition search window has an initial start W_{0s} and an initial end W_{0e}, a time t of the inactive period, and a start point as a function of time W_S and an end point as a function of time W_E, wherein:

$W_S = W_{0s} - (5/6)t$ when $W_{0s} - (5/6)t > 0$

and

$W_S = 0$ when $W_{0s} - (5/6)t <= 0$;

and

$W_E = W_{0e} + (5/6)t$ when $W_{0e} + (5/6)t <$ WIN_SRCH_MAX

and

$W_E =$ WIN_SRCH_MAX when $W_{0e} + (5/6)t =>$ WIN_SRCH_MAX;

where WIN_SRCH_MAX is an arbitrarily selected upper limit for a maximum search window size.

3. (Original) The method according to claim 2, wherein WIN_SRCH_MAX is related to a radius of a cell associated with the receiver.

4. (Previously Presented) The method according to claim 1, wherein identifying viable multipath components during the active period of data transmission comprises searching for multipath components of packet data using a standard search window associated with a rake finger in a rake receiver having the greatest power amongst the rake finger in the rake receiver.

5. (Previously Presented) The method according to claim 1, wherein viable multipath components received by the receiver during the active period are identified until no multipath components are received by the receiver.

6. (Original) The method according to claim 1, wherein a transmitter transmitting the packet data is a mobile terminal that moves relative to the receiver during one or both of the active period and the inactive period.

7. (Previously Presented) The method according to claim 6, wherein the time width of the dynamic acquisition search window is increased in correspondence with an expected maximum speed of the mobile terminal.

8. (Original) The method according to claim 1, wherein the receiver is a mobile terminal that moves relative to a transmitter during one or both of the active period and the inactive period.

9. (Previously Presented) The method according to claim 8, wherein the time width of the dynamic acquisition search window is increased in correspondence with an expected maximum speed of the mobile terminal.

10. (Previously Presented) A method for acquiring a packet data multipath component at a receiver, comprising:

associating a standard search window with a first packet data multipath component received at the receiver;

upon loss of the first packet data multipath component, defining an acquisition search window having an initial width corresponding to the standard search window;

searching for a second packet data multipath component across a width of the acquisition search window; and

until the second packet data multipath component is detected, expanding the width of the acquisition search window in proportion to a period of time elapsed since loss of the first packet data multipath component and searching for the second packet data multipath component across the width of the expanded acquisitions search window.

11. (Previously Presented) The method according to claim 10, wherein searching for the second packet data multipath component comprises:

comparing a detected signal with a reference signal;

determining a value corresponding to the comparison of the detected signal and the reference signal;

repeatedly shifting the detected signal incrementally relative to the reference signal, comparing the relatively shifted detected signal and the reference signal, and determining a value corresponding to the comparison of the relatively shifted detected signal and the reference signal, thereby obtaining a plurality of values corresponding to the comparisons between the detected and the reference signals and the relatively shifted detected and reference signals, the incremental shifting continuing up to an instantaneous width of the acquisition search window;

identifying the highest value among the plurality of values corresponding to the comparisons between the detected and the reference signals and the relatively shifted detected and reference signals; and

comparing the highest value to a threshold value, such that exceeding the threshold value corresponds with identification of the second packet data multipath component.

12. (Previously Presented) The method according to claim 1, wherein the dynamic acquisition search window has an initial start W_{0s} and an initial end W_{0e}, a time t of the inactive period and k is a constant corresponding with a maximum rate of change of roundtrip propagation delay, and a start point as a function of time W_S and an end point as a function of time W_E, wherein:

$W_S = W_{0s} - kt$ when $W_{0s} - kt > 0$

and

$W_S = 0$ when $W_{0s} - kt <= 0$;

and

$W_E = W_{0e} + kt$ when $W_{0e} + kt < WIN\_SRCH\_MAX$

and

$W_E = WIN\_SRCH\_MAX$ when $W_{0e} + kt => WIN\_SRCH\_MAX$;

where WIN_SRCH_MAX is an arbitrarily selected upper limit for a maximum search window size.

13. (Original) A method for detecting a multipath component at a receiver, comprising:

upon loss of a multipath component, searching for a new multipath component over a dynamic acquisition search window having a time width which increases in proportion to a length of time during which no multipath component is detected.

14. (Previously Presented) The method according to claim 13, wherein the dynamic acquisition search window has an initial start W_{0s} and an initial end W_{0e}, a time t of an inactive period and k is a constant corresponding with a maximum rate of change of roundtrip propagation delay, and a start point as a function of time W_S and an end point as a function of time W_E, wherein:

$W_S = W_{0s} - kt$ when $W_{0s} - kt > 0$

and

$W_S = 0$ when $W_{0s} - kt <= 0$;

and

$W_E = W_{0e} + kt$ when $W_{0e} + kt < WIN\_SRCH\_MAX$

and

W_E = WIN_SRCH_MAX when W_{0e} + kt => WIN_SRCH_MAX;

where WIN_SRCH_MAX is an arbitrarily selected upper limit for a maximum search window size.

15. (Previously Presented) The method according to claim 13, wherein searching for the new multipath component comprises:

comparing a detected signal with a reference signal;

determining a value corresponding to the comparison of the detected signal and the reference signal;

repeatedly shifting the detected signal incrementally relative to the reference signal, comparing the relatively shifted detected signal and the reference signal, and determining a value corresponding to the comparison of the relatively shifted detected signal and the reference signal, thereby obtaining a plurality of values corresponding to the comparisons between the detected and the reference signals and the relatively shifted detected and reference signals, the incremental shifting continuing up to an instantaneous width of the acquisition search window;

identifying the highest value among the plurality of values corresponding to the comparisons between the detected and the reference signals and the relatively shifted detected and reference signals; and

comparing the highest value to a threshold value, such that exceeding the threshold value corresponds with identification of the new multipath component.

16. (Original) The method according to claim 1, wherein the dynamic acquisition search window has an initial start point and an initial end point, and a dynamic start point that varies as a function of time and a dynamic end point that varies as a function of time.